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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,211	01/13/2005	Jan Watta	9303.39	2603
20792	7590	08/16/2005	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			PEACE, RHONDA S	
PO BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	
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DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/521,211	Applicant(s) WATTE ET AL.	
	Examiner Rhonda S. Peace	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25,27-36 and 38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38 is/are allowed.
- 6) ☒ Claim(s) 1-11,14-21,23-25,28 and 30 is/are rejected.
- 7) ☒ Claim(s) 12,13,22,27,29 and 31-36 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/13/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file of this National Stage application from the International Bureau (PCT Rule 17.2(a)).

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 1/13/2005 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Inventorship

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "a second closing means that closes the *aperture* when the device is not in operation" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10, 11, 14, 16-18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Long et al (US 4621754).

Regarding claims 1-6, 8, 11, 17, and 20, Long et al (US 4621754) discloses a hand held tool (column 7 lines 28-31) comprising the following:

- A fixing mechanism **20** to fix a ferrule **26** to an optical fiber by crimping, such that the fiber portion **90** extends through the ferrule (column 10 lines 47-50, column 12 lines 25-28 and 53-61, Figures 11A, 14A, and 14B).

- A cleaving mechanism **100**, which cleaves the fiber portion 90 when the fixing mechanism 20 has been fixed thereto, specifically cleaving only after the fixing of fixing mechanism 20, has been completed (column 10 lines 47-50, column 11 lines 5-14 and 19-28 and 44-51, column 12 lines 11-17, Figure 11A).
- An orientation means orienting both the ferrule **26** to the fiber with orientation elements **38** and **42**, and the ferrule **26** to the cleaving mechanism **100** with orientation elements **64** and **82** (column 7 lines 6-13, column 10 lines 65-68, Figures 1 and 11A).
- A clamping mechanism situated on sled **130** that grips the fiber while it is being cleaved by cleaving mechanism **100** (column 2 lines 31-34, column 13 lines 24-37, Figures 14A and 14B).
- A scoring blade **210**, arranged within cleaving mechanism **100**, to cleave the optical fiber (column 12 lines 11-12, column 16 lines 6-9, Figures 11A and 11B).

Pertaining to claims 7 and 10, Long et al specifies that the fixing mechanism **20** and cleaving mechanism **100** are arranged such that when the fiber is cleaved to produce an end face, it is done so at a preset position with relation to the ferrule **26**. This is accomplished by cleaving mechanism component **84**, which is arranged to determine the cutting point with respect to the ferrule **26** (column 12 lines 11-24, Figures 13A and 13B).

Addressing claim 14, Long et al shows in Figures 11A and 11B that the fiber may be removed from the cleaving device **100** after the cleaving process via an aperture, which is formed between the cutting disc **192** and the wall **104**.

Speaking to claim 16, the fixing mechanism **20**, including ferrule **26**, is designed to hold the fiber in place as the cleaving mechanism **100**, using blade portion **212**, cleaves the fiber portion **90** (column 4 lines 63-66, column 11 lines 44-51, column 12 lines 11-17, Figures 11A through 11D).

Regarding claim 18, the fiber, while being cleaved by cleaving mechanism **100**, is placed under tension (column 2 lines 31-34).

Concerning claim 21, the scoring blade **210** rotates as the cleaved fiber is cut, allowing for a plurality of positions, i.e. positions along the exterior of the circular blade, to score or cleave the fiber (column 13 lines 28-41).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9, 19, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al (US 4621754) in further view of Blonder et al (EP 637763 A1).

Pertaining to claim 9, Long et al (US 4621754) discloses the device as described above. However, Long et al does not disclose a manner by which the fiber can be cleaved at a non-perpendicular angle with respect to the longitudinal axis of the fiber. Blonder et al describes an apparatus for cleaving optical fibers where the fiber may be cut at a non-perpendicular angle with respect to the longitudinal axis of the fiber (column 2 lines 4-7). It would have been obvious to one of ordinary skill in the art to combine the teachings of Long et al and Blonder et al to produce a cleaving mechanism that can cleave fibers at non-perpendicular angles, as fibers with these types of cleaves are utilized in several types of applications, such as joints, since the tilted end face redirects reflected light that would otherwise be reflected back to the source (column 1 lines 14-25)

Speaking to claim 19, Long et al (US 4621754) discloses the device as described above. Long et al does not include the use of an anvil to bend the fiber while it is cleaved. Blonder et al discloses the use of anvil **35** to bend the fiber while it is cleaved (column 3 lines 46-50, column 4 lines 9-16, Figure 4). It would have been obvious to one of ordinary skill in the art to combine the teachings of Long et al and Blonder et al to further include an anvil in cleaving mechanism **100** of Long et al, as this anvil as it

allows more control over the tension application to the fiber, and also allows for helical cleaves to be produced (column 4 line 16).

Regarding claims 23-25, Long et al (US 4621754) discloses the device as described above. However, the device of Long et al is designed to only cleave one fiber at a time. Blonder et al discloses an apparatus capable of cutting a plurality of fibers **21** in the form of a ribbon fiber **20**, with the aid of multiple fixing elements, in the form of apertures within block **30**, held in place by fixing mechanism **33** (column 3 lines 17-24 and 31-42, Figure 3). It would have been obvious to one of ordinary skill in the art to combine the teachings of Long et al and Blonder et al to produce a cleaving mechanism capable of cleaving multiple fibers simultaneously, as ribbon fibers containing a plurality of closely spaced fibers are being used in an increasing number of applications, and therefore there exists a need to easily cleave these ribbons, or multiple fiber, at the same instant (column 1 lines 43-50).

Claims 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al (US 4621754) in further view of Robinson et al (US 6628879).

Pertaining to claim 28, Long et al (US 4621754) discloses the device as described above. However, Long et al does not disclose the use of a connector body to receive the optical fiber after the cleaving process. Robinson et al does disclose the use of a connector body holder **16** configured to hold a connector body **46** into which the cleaved fiber will be inserted (column 6 lines 40-43, column 7 lines 47-52, Figures 9 and 11). It would have been obvious to one of ordinary skill in the art to combine the

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teachings of Long et al and Robinson et al as the addition of this connector structure allows the cleaved optical fiber to be safely and efficiently removed from the cleaving mechanism after the cleaving process has concluded.

Concerning claim 30, Long et al (US 4621754) discloses the device as described above. However, Long et al does not disclose the use of a ferrule assembly holder configured to hold a ferrule assembly comprising a ferrule, the fiber to be cleaved, and a ferrule holder. However, Robinson et al does disclose use of a ferrule assembly holder **16** configured to hold a ferrule assembly **56** comprising a ferrule **60**, the fiber to be cleaved **40**, and a ferrule holder **58** (column 6 lines 40-43, column 9 lines 14-22, Figures 10a, 10b, and 11). It would have been obvious to one of ordinary skill in the art to combine the teachings of Long et al and Robinson et al as it allows for greater stability to be provided to the fiber during the cleaving process, thereby eliminating the probability of damage to the fiber.

Allowable Subject Matter

Claims 12, 13, 22, 27, 29, and 31-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The most applicable prior art discussed above, as well as below, does not disclose, nor does it reasonably suggest a fixing and cleaving mechanism where the following elements, as described in claims 12, 13, 22, 27, 29, 31, 32, and 35, are present:

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- A fixing element with a non-circular cross section coupled to the cleaving mechanism by a non-circular orifice, and a closing means that closes this orifice when the device is not being used.
- A lifetime indicator that indicated the number of cleaves the device has made since the set-up procedure of the device was completed.
- A flexibly positionable neck and clamp attached to the device such that the user can temporarily place it in a convenient working position.
- A connector body that is rotatably attached to the device such that it facilitates the insertion of a ferrule and fiber into each end of the connector body from directions of insertion less than 180 degrees apart.
- A guide means that allows the ferrule assembly holder to be movable along a controlled path.
- A plurality of ferrule assemblies, arranged in succession, and located within the ferrule assembly holder as well as a compressible member attached to the ferrule assembly holder via a flexible member of sufficient length to permit the insertion and locking of the ferrule assembly into the connector body.
- And securing means for directly securing the ferrule and the fiber during and after the crimp and cleave operation in the absence of any ferrule holder.

Claim 38 is allowed.

The following is an examiner's statement of reasons for allowance: The most applicable prior art discussed within the body of this Office Action does not disclose, nor does it reasonably suggest a method of coupling optical fibers using a device comprising both a fixing and cleaving mechanism wherein the method includes the following: moving a crimped and secured ferrule containing a cleaved optical fiber into alignment with a connector body in a required orientation either with or without a keying formation on the ferrule and fixing the ferrule to the connector body.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doty (US 4229876) and Gee et al (US 4976390), both cited by the applicant, describe various models of optical fiber cleavers that are designed to be used as a hand-held tool to facilitate ease of use in the field. Carpender et al (US 5734770) describes an optical connector designed to cleave and bevel an optical fiber disposed within the connector. Uken (2002/0067893) describes a optical fiber connector comprised of two separate housings which are compatible with one another, where the first housing connector hold the optical fiber while the second housing connector bends and cleaves the optical fiber held by the first housing connector.

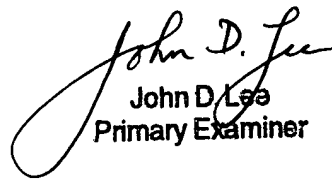
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571) 272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272- 2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rhonda S. Peace
Examiner
Art Unit 2874



John D. Lee
Primary Examiner